



KARO ECHO Newsletter

KARO ECHO

Serving the communities
of El Cerrito and
Kensington, California

Web: www.karoecho.net

Facebook:
[KARO ECHO facebook](https://www.facebook.com/KARO.ECHO)

Email: info@karoecho.net

Important Frequencies

KE Primary: 146.415 MHz
Weekly Net, Thurs. 1900

KE Secondary: 146.475 MHz

4Cs Repeater: 145.110 MHz
(TX down 600 with PL 82.5)

Monthly Meetings

In-person meetings

2nd Monday of each month
7:00 pm

Arlington Park Clubhouse,
(new location)
1120 Arlington Blvd,
El Cerrito, CA

The next meetings are:

July 8th, 2019

Aug. 12th, 2019

Meeting minutes are on
the website in the past
events page. Thank you to
Natalie KM6UCF.

What's New

KARO ECHO Meeting July 8, *New Time and Location*, 1900 in El Cerrito

Reminder that the KARO ECHO meeting time has been moved up to 1900 from the previous time of 1930. The location is now at the Arlington Park Clubhouse. The meeting will be held on Monday July 8 at Arlington Park Clubhouse, 1120 Arlington Blvd, El Cerrito, CA.

2019 Field Day Extravaganza at Caesar Chavez Park in Berkeley

The annual Field Day event (on the fourth weekend of every June) was held again locally at Caesar Chavez Park in Berkeley on June 22 and 23 sponsored by the East Bay Amateur Radio Club and NALCO ARES/RACES with several KARO ECHO members participating in operation and installation. KARO ECHO distributed its colorful outreach brochure as did NALCO, EBARC, and the Oakland Radio Club. Participants and observers from KARO ECHO were K6FAC, KJ6WSS, KE6BEE, KJ6DJ, KJ6AAT, KM6TCB, NI6A, and Andy AI6PW, whose new callsign is NG6W. Three HF stations were operated under emergency power, and made 186 digital contacts and 267 voice contacts across the country. The operators provided technical demonstrations and information for over 50 guests, including get on the air (GOTA) operating opportunities for many unlicensed operators (under the purview of a licensed control operator). The event reaffirmed old acquaintances, and everyone had a great time working together.

Field Day combines community building, education in portable tower and antenna erection, portable emergency power systems, reaching out to the greater community, positive public relations, and cooperation among hams and clubs sharing a common positive purpose. Perhaps next year KARO ECHO will participate more fully in what is by far the most well attended amateur radio event of the year.

August 17th, 0900-1300, West County Radio Exercise

While not a KARO ECHO exercise, operators are encouraged to participate for practice communication over a broad area of west Contra Costa County. This drill will use a survey of areas with fire hazards as a premise to test communication ability by several means including FRS, GMRS, ham and digital. More [details can be found at this link](#) and the [WA6KQB website](http://WA6KQB.com). Contact DJ, KJ6DJ www.4cs.comm@gmail.com if you intend to participate.

LOCAL NETS**KARO ECHO NET**

146.415 MHz Simplex

Thursday eve, immediately after the West Contra Costa RACES Net, but never before 1900 hours local time.

West Contra County ACS/RACES Net

145.110 MHz repeater

(TX down 600 with PL 82.5)

Thursday: 1845 local time

Contra Costa County HF EmComm/RACES Net

3893 KHz

Thursday: 1835 local time

American Red Cross of the Bay Area (ARCBA)

WW6BAY Repeater

443.975 MHz

TX =5 MHz, PL 100 Hz

Wednesday: 2000 local time

BOARD OFFICERS

President: Hal KK6NDF

Treasurer: Larry KK6GIO

Secretary: Natalie KM6UCF

Vice President Pro Tem:
Don NI6A

Emergency Coordinator:
Jamuel KM6HBO

Exec Board Member at Large,
and newsletter editor:

Howdy KE6BEE

Webmaestro: Rob K6RJM

What's New (continued)**Tower/antenna lowering**

KARO ECHO members, in cooperation with other local ham groups, removed a ~45 foot tower with large HF antenna from a residence in Oakland (no longer occupied by a ham). Thanks to the planning and rigging of Jay (KJ6WSS) these valuable component were safely lower and recovered for future use. Edward (KM6UBY) put together [a very informative website with photos and videos](#) of this operation. KARO ECHO members Howdy (KE6BEE) and David (KN6BVF) were also part of the tower team.



A smaller operation was the removal of the Kensington Community Center (KCC) Diamond X300A antenna in preparation for the seismic renovation of the building. Howdy (KE6BEE), supported by Hal (KK6NDF), Jerry (K6KOP), and Don (NI6A), made quick work of this task.

Hopefully, most of our future activities will be installations to get this and other equipment back on the air. Jerry (K6KOP), has suggested that the KCC would be a good site for a GMRS repeater in order to provide interoperability between FRS/GMRS and Amateur radio at the KCC message Center.

If you need help (design/labor) with an antenna installation, or just advice on how to proceed, the infrastructure group of KARO ECHO is available to help. Contact Howdy ke6bee@arrl.net

Prototype Antenna Patch Boxes for El Cerrito Clubhouses

The city of El Cerrito is still reviewing the proposed installation of antenna patch boxes on the Harding and Tassajara clubhouses (where rooftop antennas already are installed. Recreation Dept. staff have been busy with the runup to Summer camp programs and the 4th of July festival. Now that those activities are past, there will be follow-up on the status of these installations. Two patch boxes are built and ready to go. They each contain two separate coax connectors, as we also hope to add a separate FRS/GMRS antenna at these locations. If these installations go well, we may be able to explore install similar antennas

Activities

Weekly Net Control Rotation

Thanks go out to the 8 volunteer stations who have been taking turns at NCS since last fall. This rotation has been working very well and everyone has been doing a great job. After a few changes, the regular NCS roster will have 9 operators, Ken Gustafson (KK6SRD) will no longer be in the rotation, and we are adding Dave Roth (KM6TCB) and Karen Leong-Fenton (KK6ZPM). There are opportunities to fill in when a regular station has a scheduling conflict and there is always room to add more stations to the rotation. [Download the new Net Script for NCS operators.](#)

KE6BEE	Howdy Goudey	KE6HCE	Armando Picciotto
KK6NDF	Hal Graboske	NI6A	Don Simon
KM6HBO	Jamuel Starkey	KM6TCB	Dave Roth
KK6GIO	Larry Vanselow	KK6ZPM	Karen Leong-Fenton
K6RJM	Rob McNicholas		

Note the scheduled dates for each operator have changed as a result of the re-organization, so do not rely on the old table of dates. The KARO ECHO google calendar has been updated and the following is the revised date matrix.

Callsign	Name	Assigned Dates (skipped: 7/4/2019 and 11/28/2019)						
KE6BEE	Howdy Goudey	6/20/2019	8/29/2019	10/31/2019	1/16/2020	3/19/2020	5/21/2020	7/23/2020
KK6NDF	Hal Graboske	6/27/2019	9/5/2019	11/7/2019	1/23/2020	3/26/2020	5/28/2020	7/30/2020
KM6HBO	Jamuel Starkey	7/11/2019	9/12/2019	11/14/2019	1/30/2020	4/2/2020	6/4/2020	8/6/2020
KK6GIO	Larry Vanselow	7/18/2019	9/19/2019	11/21/2019	2/6/2020	4/9/2020	6/11/2020	8/13/2020
K6RJM	Rob McNicholas	7/25/2019	9/26/2019	12/5/2019	2/13/2020	4/16/2020	6/18/2020	8/20/2020
KE6HCE	Armando Picciotto	8/1/2019	10/3/2019	12/19/2019	2/20/2020	4/23/2020	6/25/2020	8/27/2020
NI6A	Don Simon	8/8/2019	10/10/2019	12/26/2019	2/27/2020	4/30/2020	7/2/2020	9/3/2020
KM6TCB	Dave Roth	8/15/2019	10/17/2019	1/2/2020	3/5/2020	5/7/2020	7/9/2020	9/10/2020
KK6ZPM	Karen Fenton-Leong	8/22/2019	10/24/2019	1/9/2020	3/12/2020	5/14/2020	7/16/2020	9/17/2020

Action Item: Help create a deep pool of skilled NC operators. Please contact Howdy ke6bee@arrl.net if you are interested in taking a net control assignment.

KARO ECHO Mobile Radio "Go-kit" Needs a Home

A fully featured mobile radio "go-kit" with large battery, antenna and accessories (including message forms and documentation) is available to be deployed somewhere in El Cerrito. We are looking for a secure but accessible storage location that has electricity for the battery float charger. Ideally, this would be something like a lockable outbuilding in a backyard that could be easily reached in case of a disaster by more than one ham. Contact info@karoecho.net if you have ideas on locating the radio go-kit.

About KARO ECHO

KARO ECHO is the name of the Kensington Amateur Radio Operators and the El Cerrito Ham Operators mutual benefit association, an all-volunteer non-profit group of amateur radio operators providing auxiliary communications for the cities of Kensington and El Cerrito in the event of a disaster. KARO ECHO works with CERT (Community Emergency Response Teams) in Kensington and El Cerrito, but is not an official part of the CERT program.

Monthly in-person meetings of KARO ECHO are on the 2nd Monday of each month at 7:00 pm at the Arlington Park Clubhouse, 1120 Arlington Blvd, El Cerrito, CA. The next meetings are:

- ♦ July 8th, 2019
- ♦ Aug. 12th, 2019

Yearly dues are \$30/year for individuals, \$40/year for a family membership. Mail to:

KARO ECHO, PO Box 2025, 6324 Fairmont Ave, El Cerrito, CA 94530-3651

Please see our website for more information: www.karoecho.net

You can contact the KARO ECHO board by email: info@karoecho.net

KARO ECHO Facebook

The [KARO ECHO Group on Facebook](https://www.facebook.com/groups/1451216838315743/) has a lot of good information, more than is contained on our website. There is a whole wide world of emergency communications information at <https://www.facebook.com/groups/1451216838315743/>. Check it out and be inspired of what we can do to help disaster victims in our community.

Weekly Training Net

The Karo-Echo Weekly Training Net meets every Thursday evening immediately after the West Co Co County RACES/ACS Net; but not before 1900 on 146.415 MHz Simplex. Details at <https://www.karoecho.net/events>

KARH-ECHO Frequencies

The KARO ECHO primary frequency is still 146.415 MHz simplex. **Our secondary frequency however has been changed to 146.475 MHz simplex** thus creating a 60 KHz spread between operating frequencies that will reduced adjacent frequency desensing.

KARO ECHO Dues

Action Item: Please send in your dues to KARO ECHO -- P.O. Box 2025 -- El Cerrito, CA. 94530-3651 or see Larry at this Monday's meeting at the Arlington Park clubhouse. You can still be a non-voting member of KARO ECHO without paying dues, but only licensed Amateur Radio Operators and dues paying members will be allowed to vote. So if you can't afford \$30 for full membership (or \$40) for family membership), please come and participate in any case. Dues cover our 510c3 registration, post office box, web page, station operating manuals and more. Your input on useful expenditures to aid emergency communications are welcome.

Outreach, Education and Licensing

Ham Class/Exam

Several hams earned their ticket (or upgrade) at the June 12th VE Exam session following the technician class offered by Ken Fowler (EBARC) and co-hosted by KARO ECHO. Congratulations to Marius KN6CRO (General), Robin KN6CRP and Lorraine KN6CRT (Technician), and Howdy KE6BEE (Extra). Several other Berkeley resident students in the class also earned their licenses. Another new ham, Ginny's daughter Susan, just got her ticket (KN6CMR). Ginny (KF6HEX) had been a stalwart of KARO ECHO for many years serving as its primary net control station and meeting chairperson.

KARO ECHO Ham Cram

The KaroEcho Ham Cram is still in the works for the Summer; but it will require more volunteers. So far Jamuel KM6HBO, Andy NG6W, David KJ6AAT, and Don NI6A have volunteered to help as Volunteer Examiners. Others have come forward.

We need to spread this and other efforts out to more concerned members to avoid burning out our small and dedicated core members. Please ask how you can help.

SET Video on YouTube

We are looking for volunteers to take the lead producing a video documenting the Feb 23 SET using assorted voice recordings, videos, photos, and narration. If you have any video editing or production skills (or you can recommend someone) please contact info@karoecho.net We need your help -- don't be shy.

CERT SET YouTube Video

See the CERT SET Youtube video link

<https://www.youtube.com/watch?v=66DdgGLn4c&list=PLROOaUIKdrEgSID1bQJZojW3PzfURoEY-&index=144&t=0s>

ELMERING

Elmering/Mentoring is available by request. Email info@karoecho.net

In the meanwhile, please check out the plethora of disaster radio communications topics at <https://www.karoecho.net> website and/or request specific literature to be created.

Elmer tip of the month: It is good operating procedure to pause periodically when transmitting to make sure that you are not doubling with another station. When sending a message always stop and let go of your PTT button every five words or letter/number groups. Not only let your transmit signal drop; but LISTEN for a breaker or doubling. Pause frequently and listen frequently.

KAROECHO.Net Website

Especially, check out the EVENTS Page (<https://www.karoecho.net/events>) and the WORKSTREAMS drop-down menu which will lead one to an extensive training page that provides online learning at your own pace. Everything from the very beginning to advanced EmComm operations is detailed. The RESOURCE page has many excellent outside links.

- ◆ If you are on Facebook, contribute to the KARO ECHO Facebook Group Page at <https://www.facebook.com/groups/1451216838315743/>
- ◆ If you haven't already filled out the JOIN form please do. Find it as a drop down menu under "Get Involved" See <https://www.karoecho.net/join>
- ◆ A follow-through novice primer has been put on the website for new hams once they have bought their radio and want to learn more. See: <https://drive.google.com/file/d/10J-569BRrx5adhA-hJGPeNITU6B9Yi6z/view>
- ◆ Also a new Dual-Band antenna primer for new hams who want to graduate from the rubber-ducky world is at https://drive.google.com/file/d/1u_ozABBRYDJDACFJRTV_rxWF1WjCgW_I/view
- ◆ Note that the Tram 1480 gain dual band antenna is currently still available for \$51 (no tax and free shipping) on ebay or from Home Depot. That and an inexpensive speaker tripod is a dynamite combination for portable operation. This antenna is equivalent to the Diamond X-200a antenna which sells at HRO for \$125.00 before taxes and shipping.
- ◆ For newbies, please visit <https://www.karoecho.net/workstreams/training> and read the study materials. It is all there except for hands-on experience. Ask questions!
On every Thursday evening net there will be a training session and/or discussion. Summaries of recent net events are found under our past events page at <https://www.karoecho.net/events/past-events>
- ◆ Note: See the **KARO ECHO Agenda** for our upcoming Monday, July 8th, 2019 Meeting see: <https://www.karoecho.net/events> the agenda will be made available no later than the Sunday immediately preceding the meeting.
- ◆ All recent KARO ECHO **Minutes will be found at our Past Events page** We are now including past Executive Board Minutes as well. [Newsletters are on the Documents Page.](#)

If you desire to be removed from this email list, please email info@karoecho.net

Technical Corner: SWR and Reflected Power Loss

It is more than possible to lose more than 90% of your signal strength (potential Effective Radiated Power or ERP) through a badly matched antenna and/or degraded transmission line (coax).

As we all know rubber duck antennas and their older cousins, the extended rubber duck antennas, are the worse antennas in regard to ERP. They are down from a quarterwave vertical (19.2" on 2 meters and 5" on 70 cm).

The solution is simple. Simply unscrew the rubber duck and attach a gain antenna to your handheld. KARO ECHO has run antenna workshops in the past offering practical solutions, and will do so again in the future. Here we will address signal loss, especially in relationship to standing wave ratio (SWR). Simply understood, the higher the SWR the more loss. High SWR indicates a poorly tuned antenna, or badly matched, or damaged transmission line (coax). If the SWR is high, not only is the signal degraded but the radio itself might be damaged; the extreme example is transmitting without an antenna and/or transmitting with a cut transmission line. EVERY ANTENNA SHOULD BE CHECKED periodically for SWR. Using a suitable (as to band and power) SWR meter is standard operating procedure in traditional ham shacks. Simply place the SWR meter between the radio and the transmission line going to the antenna. Do this test often.

Fundamentally, test the antenna at the lowest operating frequency, the middle of the operating band, and at the upper edge of each band that the antenna is designed to cover. Any SWR greater than 1.8: 1 indicates a possible problem. Otherwise, one does not know if the antenna is long or short. Rarely, if ever, will any antenna be flat across the entire band unless one is testing a dummy load or the SWR meter is poorly calibrated or broken.

For example, for 2 m: the test should be 144.001 -146.000 and 147.999

For 70 cm: 440.1 444 and 447.9.

For FRS/GMRS: 462.5500 and 467.725

For example, rarely will a UHF antenna be designed to provide good SWR readings across both the Ham 70 cm UHF band and the FRS/GMRS UHF band (a span of 27 MHz) without incorporating a specialized wide-band design (again, the latter being rare). In short, if the SWR meter is working as it should the SWR from 440.1 to 467.725 will vary considerably. Many, but not all, antennas can be customized (trimmed) to tune to the desired frequency with low SWR. A well-tuned antenna might display 1.1 : 1 at the center of the desired operating band; but as much as 1.8 : 1 at the two edges differing by antenna design criteria. Again SWR greater than 1.8: 1 will be problematic. KARO ECHO recommends that every member periodically check their SWR. Better than an SWR bridge is a modern antenna analyzer. KARO ECHO will offer free SWR checks to all members. Contact info@karoecho.net to arrange.